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(54) DISPLAY DEVICE FOR VEHICLE

(57)Abstract:

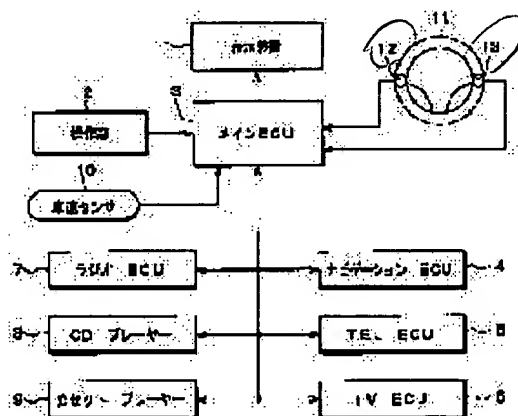
PROBLEM TO BE SOLVED: To inhibit input operation by a driver during running of a vehicle, and enable an occupant in a front passenger seat or the like to perform the input operation in good controllability.

SOLUTION: In a main ECU 3, when a vehicle is decided to be during running based on a car speed signal from a car speed sensor 10, input operation of map research in navigation, destination setting, telephone number input, etc., is disabled, and input operation by a driver during running of the vehicle is inhibited. In a condition thus

formed, when a running forced release switches 12, 13 provided in a handle 11 are simultaneously turned on by

the driver, in the ECU 3, inhibition of the input operation of map research or the like in navigation is released, so

as to be able to operate the input operation by an occupant in a front passenger seat or the like.



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CLAIMS

[Claim(s)]

[Claim 1] While controlling the display of said display means (1) according to the display means (1) installed in the vehicle interior of a room, the actuation means (2) in which crew does alter operation based on the display of said display means (1), and said alter operation The control means changed into the prohibition condition which cannot perform said alter operation during transit of a car (3-9), It has the 1st and 2nd switching means (12 13) prepared in the left-hand side and right-hand side of a handle in the handle position in case a car is in a rectilinear-propagation run state. Said control means (3-9) The display for cars characterized by being what cancels said prohibition condition when said 1st and 2nd switching means (12 13) is operated by coincidence.

[Claim 2] The display means (1) installed in the vehicle interior of a room, and the actuation means in which it is installed near said display means (1), and crew does alter operation based on the display of said display means (1) (2), While controlling the display of said display means (1) according to said alter operation The control means changed into the prohibition condition which cannot perform said alter operation during transit of a car (3-9), It has the switching means (12) prepared in the side in which said actuation means (2) of a handle is installed in the handle position in case a car is in a rectilinear-propagation run state. Said control means (3-9) The display for cars characterized by being what cancels said prohibition condition when said switching means (12) is operated.

[Claim 3] While controlling the display of said display means (1) according to the display means (1) installed in the vehicle interior of a room, the actuation means (2) in which crew does alter operation based on the display of said display means (1), and said alter operation The control means changed into the prohibition condition which cannot perform said alter operation during transit of a car (3-9), It has a switching means (12 13) for canceling said prohibition condition. Said switching means (12 13) Are the location which an operator can operate and it is prepared in the location which cannot perform said alter operation while said operator performs handle actuation at the time of the actuation. Said control means (3-9) is a display for cars characterized by being what cancels said prohibition condition when said switching means (12 13) is operated.

[Claim 4] Said control means (3-9) is claim 1 characterized by being what continues discharge of said prohibition condition between predetermined periods from from when said switching means (12 13) is no longer operated thru/or the display for cars of any one publication of three.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]**[0001]**

[Field of the Invention] This invention relates to the display for cars which displays information, such as navigation, on the display means installed in the vehicle interior of a room.

[0002]

[Description of the Prior Art] Conventionally, in this kind of indicating equipment for cars, there is a thing it was made to display the display about navigation, such as a map and the current position, the display about television, the display about a telephone, etc. on an indicating equipment. This display is installed near the center of an instrument panel so that the man of a driver's seat and a passenger seat can mainly operate it.

[0003] And for reservation of safety, it consisted of [be / it / under / transit / of a car / setting] the former so that alter operation, such as the complicated actuation in navigation, television, a telephone, etc., for example, the map retrieval in navigation, a destination setup, and a telephone number input, could not be performed. On the other hand, the switch for discharge is formed in the passenger side edge of an instrument panel, and even if a car is running while those who are present in a passenger seat are pushing the switch for discharge, what could be made to carry out alter operation is indicated by JP,5-164565,A.

[0004]

[Problem(s) to be Solved by the Invention] However, according to the technique indicated by the above-mentioned official report, those who are present in a passenger seat have a problem in respect of operability in order to have to perform alter operation single hand, pushing the switch for discharge in the passenger side edge of an instrument panel. This invention is what took the example by the above-mentioned problem, and while forbidding the alter operation by the operator under car transit, it aims at operability being made to be improved by crews, such as a passenger seat, by alter operation.

[0005]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, when the 1st and 2nd switching means (12 13) is prepared in the left-hand side and right-hand side of a handle and the 1st and 2nd switching means (12 13) is operated by coincidence in invention according to claim 1, it is characterized by canceling the prohibition condition whose alter operation is impossible.

[0006] While operating to coincidence the 1st and 2nd switching means (12 13) by which the operator was prepared during transit of a car at the handle, an operator's both hands are closed, and since an operator cannot perform alter operation, even if he cancels the prohibition condition of alter operation, he can secure the safety under transit. At this time, crews, such as a passenger seat, can perform alter operation with sufficient operability.

[0007] In invention according to claim 2, when a switching means (12) is prepared in the near handle position in which the actuation means (2) is installed and the switching means (12) is operated, it is characterized by canceling a prohibition condition. Also in this invention, since that hand currently operated and hand of the opposite side cannot perform alter operation for an actuation means (2) while

the operator is operating the switching means (12), the same effectiveness as the above-mentioned invention according to claim 1 can be done so.

[0008] Moreover, it is the location where an operator can operate the switching means (12 13) for canceling a prohibition condition like invention according to claim 3, and if it is made to prepare in the location which cannot carry out alter operation to an actuation means (2) while an operator performs handle actuation at the time of the actuation, the same effectiveness as the above-mentioned invention according to claim 1 can be done so.

[0009] Furthermore, if discharge of the prohibition condition between predetermined periods is continued from from like invention according to claim 4 when a switching means (12 13) is no longer operated, even when it seems that actuation of a switching means (12 13) became impossible temporarily in the right and left chip box etc., alter operation can be performed continuously. In addition, the sign in the above-mentioned parenthesis shows correspondence relation with the concrete means given in an operation gestalt mentioned later.

[0010]

[Embodiment of the Invention] The configuration of the display for cars in 1 operation gestalt of this invention is shown in drawing 1. An indicating equipment 1 performs the display about navigation, such as a map and the current position, the display about television, the display about a telephone, etc., and as shown in drawing 2, it is installed near the center of the instrument panel of the vehicle interior of a room. A CRT display, a liquid crystal display, etc. can be used as this display 1.

[0011] A control unit 2 is the thing equipped with the touch switch for performing alter operation, such as the switch for performing the screen change of navigation, television, a telephone, etc. and the actuation in those display screens, for example, the map retrieval in navigation, a destination setup, and a telephone number input, and is installed in the front face of a display 1 in one. The appearance configuration of a display 1 and a control unit 2 is shown in drawing 3. The display 1 has display screen 1a, and the control unit 2 is formed in the frame 20 prepared in the front periphery of display screen 1a of a display 1. The control unit 2 has 2f of circuit changing switches to circuit changing switch 2a to a navigation screen, circuit changing switch 2b to a telephone screen and a television screen, and a radio screen], and music CD screen e, and a cassette screen, as shown in drawing. Moreover, the control unit 2 has the touch switch which detects actuation with a finger etc. on display screen 1a. The thing of a type which detects a contact location as this touch switch with the transparence electric conduction film formed on the glass substrate of a pair, or the thing of a type which carries out a scanning scan at the shape of a matrix using infrared radiation, and detects a protection-from-light location can be used.

[0012] It is the control device (ECU) of Maine, and connects with various control devices, such as navigation ECU 4, a telephone (TEL) ECU 5, television (TV) ECU 6, radio ECU 7, CD player 8, and a cassette player 9, and 3 transmits the signal according to actuation of a control unit 2 to a predetermined control device, and receives an indicative data from a predetermined control device, and makes the display perform to a display 1.

[0013] Navigation ECU 4 reads map data from CDROM, and performs processing for making the navigation display of the current position of a car, a map, etc. perform while it pinpoints the current position of a car with the signal from the GPS receiver which is not illustrated. Moreover, while screen circuit changing switch 2a is operated and the navigation display is performed to the indicating equipment 1, this navigation ECU 4 displays the switch for performing map retrieval, a destination setup, a telephone number input, etc. to display screen 1a, answers touch switch actuation of the location corresponding to that switch display, and performs processing of map retrieval, a destination setup, a telephone number input, etc.

[0014] Moreover, television ECU 6 controls the receiving channel of television etc., radio ECU 7 controls the receiving channel of radio etc., a telephone ECU 5 controls dispatch of a telephone, arrival, etc., and a cassette player 9 controls [CD player 8 performs reading control of Music CD etc., and] reading of a cassette tape, playback, etc. These control devices 5-9 make a switch display perform on the screen, answer the touch switch actuation corresponding to it, and perform each above-mentioned

control while displaying the screen about each on an indicating equipment 1 by actuation of screen circuit changing switch 2b-2f.

[0015] Moreover, Main ECU 3 can be made not to perform alter operation by touch switches, such as the above-mentioned map retrieval, a destination setup, and a telephone number input, if it judges that a car is running based on the vehicle speed signal from a speed sensor 10. Hereafter, it is called transit compulsion that such alter operation cannot be performed. Moreover, in this operation gestalt, in order to enable it to perform alter operation which canceled the transit compulsion and crews other than an operator described above, the transit forced release switches 12 and 13 are formed in the handle 11. In this case, the transit forced release switches 12 and 13 are formed in the left-hand side and right-hand side of a handle 11 in case a car is in a rectilinear-propagation run state, respectively.

[0016] Next, a setup of the above-mentioned transit compulsion and processing of discharge are explained according to the flow chart shown in drawing 4. It judges whether as for Main ECU 3, in step 101, a car is running based on the signal from a speed sensor 10 (the vehicle speed is 5km/h or more). When it judges that it is not under transit, it changes into the condition of having progressed to step 102 and having canceled transit compulsion. Therefore, alter operation by the touch switch can be performed at this time.

[0017] Moreover, if a car starts transit and the judgment of step 101 is set to YES, it will judge whether it progresses to step 103 and the transit forced release switches 12 and 13 turn on in coincidence. When the transit forced release switches 12 and 13 do not turn on in coincidence, it tells by transmission that progressed to step 104, set up transit compulsion, and transit compulsion was set as control units 4-9. In order to perform touch switch actuation, the control device which shows to current and an indicating equipment 1 eliminates the switch prevent from operating among the switches currently displayed on display screen 1a, or tones down a switch color, and can be made not to perform alter operation by the touch switch by this. In addition, even when this transit compulsion is set up, it can be operational and, thereby, the screen circuit changing switches 2a-2f can change a screen.

[0018] In such a condition, if an operator does ON actuation of the transit forced release switches 12 and 13 at coincidence, it will tell by transmission that the judgment was set to YES, progressed to step 102, and canceled transit compulsion when it arrived at step 103, and transit compulsion was canceled by control units 4-9. By this, the control device which shows to current and an indicating equipment 1 will return to the normal state which can perform alter operation by the touch switch. In this case, since the operator is doing ON actuation of the transit forced release switches 12 and 13 at coincidence, he cannot perform alter operation by the touch switch, but when crew is in a passenger seat, that crew can perform alter operation by the touch switch. Since that crew does not need to operate the transit forced release switches 12 and 13 at this time, alter operation can be performed with sufficient operability.

[0019] Moreover, in the conventional thing, when the crew of a passenger seat pushes the switch for discharge, an operator can perform alter operation, but since conditions, then an operator's both hands are closed [that the transit forced release switches 12 and 13 turned on in coincidence like this operation gestalt, and], the actuation input by the operator under car transit can be forbidden certainly.

[0020] In addition, although what cancels transit compulsion was shown when the transit forced release switches 12 and 13 were formed in the left-hand side and right-hand side of a handle 11 and they turned on in coincidence, you may make it form the right-hand side transit forced release switch 13 in other locations other than handle 11, for example, the installation of the rise-and-fall switch of a power window, in the above-mentioned operation gestalt. Moreover, even if it does not form two transit forced release switches 12 and 13, you may make it form the transit forced release switch 12 only in the left-hand side of a handle 11, as shown in drawing 5. In this case, since a touch switch cannot be operated with the right hand while the operator is doing ON actuation of the transit forced release switch 12 on the left-hand side of a handle 11 with the left hand, the alter operation by the operator can be prevented certainly. Furthermore, when setting a transit forced release switch to one in this way, you may make it form a transit forced release switch in the installation of the rise-and-fall switch of the power window described above in addition to the handle. While it is the location which an operator can operate manually and an operator operates a handle 11 in short at the time of the manual operation, the transit

forced release switch should just be formed in the location which cannot operate a touch switch.

[0021] Moreover, this invention is applicable similarly [in the case of a left-hand-drive car]. What is necessary is just to form the transit forced release switches 12 and 13 in a handle 11, as shown in drawing 6 in this case. In addition, in forming only one transit forced release switch in a handle 11, it makes it prepare in the right-hand side of a handle 11. Moreover, in the above-mentioned operation gestalt, only while the transit forced release switch was pushed, what cancels transit compulsion was shown, but while canceling transit compulsion and performing alter operation, the case where a transit forced release switch cannot be pushed in a right and left chip box etc. arises. In this case, alter operation will be interrupted. In order to cope with such a problem, also after a transit forced release switch turns off, discharge of transit compulsion should just be made to carry out predetermined period continuation. It progresses to step 102 and is made to make discharge of transit compulsion continue until it judges whether predetermined period (for example, 10 seconds) progress was carried out and 10 seconds specifically pass it, after the transit forced release switches 12 and 13 turn off at the following step 105 when OFF of the transit forced release switches 12 and 13 is judged at step 103 as shown in drawing 7 .

[0022] Moreover, since alter operation by the operator cannot be performed among the transit forced release switches 12 and 13 if in the case of a car with right-hand steering one left-hand side switch 12 turns on even if the right-hand side switch 13 turns off noting that a car is in a stable run state, when it judges running the highway from the currency information from navigation etc., you may make it cancel transit compulsion. In addition, in the case of a left-hand-drive car, transit compulsion will be canceled, if the right-hand side switch 13 turns on conversely even if the left-hand side switch 12 turns off.

[0023] Moreover, even when the transit forced release switch is pushed noting that a car is in an unstable run state, when it judges running the road where a right and left chip box continues from the currency information from navigation etc. conversely, you may make it set up transit compulsion. Moreover, in the above-mentioned operation gestalt, although what is made to perform a switch display on a screen and inputs by carrying out touch switch actuation in the location corresponding to it was shown, it can input into the frame 20 shown in drawing 3 by forming two or more switches, without using a touch switch. For example, two or more switches of a frame 20 up and down are formed, and corresponding to it, a switch display is made to perform on a screen and it is made to input by operating the switch which has a frame 20 up and down.

[0024] Moreover, since an operator's both hands are closed, you may make it use fundamentally RIMON (what can be operated by remote control) of another object with a display in addition to the touch switch on a screen, the switch of the frame upper and lower sides, etc., when operating the transit forced release switch except the example shown in drawing 5 in the above-mentioned operation gestalt. Moreover, although the above-mentioned operation gestalt showed what arranges a control unit 2 near the display 1 by forming a control unit 2 in one with a display 1, control units 2 are a display 1 and another object, and may be arranged in near.

[0025] Furthermore, this invention can be similarly applied not only to the indicating equipment for cars equipped with the various control units 4-9 but to the indicating equipment for cars according to each control unit individual, for example, the navigation equipment for cars using navigation ECU 4, from the Maine control unit 3 as shown with the above-mentioned operation gestalt.

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TECHNICAL FIELD

[Field of the Invention] This invention relates to the display for cars which displays information, such as navigation, on the display means installed in the vehicle interior of a room.

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PRIOR ART

[Description of the Prior Art] Conventionally, in this kind of indicating equipment for cars, there is a thing it was made to display the display about navigation, such as a map and the current position, the display about television, the display about a telephone, etc. on an indicating equipment. This display is installed near the center of an instrument panel so that the man of a driver's seat and a passenger seat can mainly operate it.

[0003] And for reservation of safety, it consisted of [be / it / under / transit / of a car / setting] the former so that alter operation, such as the complicated actuation in navigation, television, a telephone, etc., for example, the map retrieval in navigation, a destination setup, and a telephone number input, could not be performed. On the other hand, the switch for discharge is formed in the passenger side edge of an instrument panel, and even if a car is running while those who are present in a passenger seat are pushing the switch for discharge, what could be made to carry out alter operation is indicated by JP,5-164565,A.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, according to the technique indicated by the above-mentioned official report, those who are present in a passenger seat have a problem in respect of operability in order to have to perform alter operation single hand, pushing the switch for discharge in the passenger side edge of an instrument panel. This invention is what took the example by the above-mentioned problem, and while forbidding the alter operation by the operator under car transit, it aims at operability being made to be improved by crews, such as a passenger seat, by alter operation.

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MEANS

[Means for Solving the Problem] In order to attain the above-mentioned purpose, when the 1st and 2nd switching means (12 13) is prepared in the left-hand side and right-hand side of a handle and the 1st and 2nd switching means (12 13) is operated by coincidence in invention according to claim 1, it is characterized by canceling the prohibition condition whose alter operation is impossible.

[0006] While operating to coincidence the 1st and 2nd switching means (12 13) by which the operator was prepared during transit of a car at the handle, an operator's both hands are closed, and since an operator cannot perform alter operation, even if he cancels the prohibition condition of alter operation, he can secure the safety under transit. At this time, crews, such as a passenger seat, can perform alter operation with sufficient operability.

[0007] In invention according to claim 2, when a switching means (12) is prepared in the near handle position in which the actuation means (2) is installed and the switching means (12) is operated, it is characterized by canceling a prohibition condition. Also in this invention, since that hand currently operated and hand of the opposite side cannot perform alter operation for an actuation means (2) while the operator is operating the switching means (12), the same effectiveness as the above-mentioned invention according to claim 1 can be done so.

[0008] Moreover, it is the location where an operator can operate the switching means (12 13) for canceling a prohibition condition like invention according to claim 3, and if it is made to prepare in the location which cannot carry out alter operation to an actuation means (2) while an operator performs handle actuation at the time of the actuation, the same effectiveness as the above-mentioned invention according to claim 1 can be done so.

[0009] Furthermore, if discharge of the prohibition condition between predetermined periods is continued from from like invention according to claim 4 when a switching means (12 13) is no longer operated, even when it seems that actuation of a switching means (12 13) became impossible temporarily in the right and left chip box etc., alter operation can be performed continuously. In addition, the sign in the above-mentioned parenthesis shows correspondence relation with the concrete means given in an operation gestalt mentioned later.

[0010]

[Embodiment of the Invention] The configuration of the display for cars in 1 operation gestalt of this invention is shown in drawing 1. An indicating equipment 1 performs the display about navigation, such as a map and the current position, the display about television, the display about a telephone, etc., and as shown in drawing 2, it is installed near the center of the instrument panel of the vehicle interior of a room. A CRT display, a liquid crystal display, etc. can be used as this display 1.

[0011] A control unit 2 is the thing equipped with the touch switch for performing alter operation, such as the switch for performing the screen change of navigation, television, a telephone, etc. and the actuation in those display screens, for example, the map retrieval in navigation, a destination setup, and a telephone number input, and is installed in the front face of a display 1 in one. The appearance configuration of a display 1 and a control unit 2 is shown in drawing 3. The display 1 has display screen 1a, and the control unit 2 is formed in the frame 20 prepared in the front periphery of display screen 1a

of a display 1. The control unit 2 has 2f of circuit changing switches to circuit changing switch 2a to a navigation screen, circuit changing switch 2b to a telephone screen and a television screen, and a radio screen], and music CD screen e, and a cassette screen, as shown in drawing. Moreover, the control unit 2 has the touch switch which detects actuation with a finger etc. on display screen 1a. The thing of a type which detects a contact location as this touch switch with the transparence electric conduction film formed on the glass substrate of a pair, or the thing of a type which carries out a scanning scan at the shape of a matrix using infrared radiation, and detects a protection-from-light location can be used.

[0012] It is the control device (ECU) of Maine, and connects with various control devices, such as navigation ECU 4, a telephone (TEL) ECU 5, television (TV) ECU 6, radio ECU 7, CD player 8, and a cassette player 9, and 3 transmits the signal according to actuation of a control unit 2 to a predetermined control device, and receives an indicative data from a predetermined control device, and makes the display perform to a display 1.

[0013] Navigation ECU 4 reads map data from CDROM, and performs processing for making the navigation display of the current position of a car, a map, etc. perform while it pinpoints the current position of a car with the signal from the GPS receiver which is not illustrated. Moreover, while screen circuit changing switch 2a is operated and the navigation display is performed to the indicating equipment 1, this navigation ECU 4 displays the switch for performing map retrieval, a destination setup, a telephone number input, etc. to display screen 1a, answers touch switch actuation of the location corresponding to that switch display, and performs processing of map retrieval, a destination setup, a telephone number input, etc.

[0014] Moreover, television ECU 6 controls the receiving channel of television etc., radio ECU 7 controls the receiving channel of radio etc., a telephone ECU 5 controls dispatch of a telephone, arrival, etc., and a cassette player 9 controls [CD player 8 performs reading control of Music CD etc., and] reading of a cassette tape, playback, etc. These control devices 5-9 make a switch display perform on the screen, answer the touch switch actuation corresponding to it, and perform each above-mentioned control while displaying the screen about each on an indicating equipment 1 by actuation of screen circuit changing switch 2b-2f.

[0015] Moreover, Maine ECU 3 can be made not to perform alter operation by touch switches, such as the above-mentioned map retrieval, a destination setup, and a telephone number input, if it judges that a car is running based on the vehicle speed signal from a speed sensor 10. Hereafter, it is called transit compulsion that such alter operation cannot be performed. Moreover, in this operation gestalt, in order to enable it to perform alter operation which canceled the transit compulsion and crews other than an operator described above, the transit forced release switches 12 and 13 are formed in the handle 11. In this case, the transit forced release switches 12 and 13 are formed in the left-hand side and right-hand side of a handle 11 in case a car is in a rectilinear-propagation run state, respectively.

[0016] Next, a setup of the above-mentioned transit compulsion and processing of discharge are explained according to the flow chart shown in drawing 4. It judges whether as for Maine ECU 3, in step 101, a car is running based on the signal from a speed sensor 10 (the vehicle speed is 5km/h or more). When it judges that it is not under transit, it changes into the condition of having progressed to step 102 and having canceled transit compulsion. Therefore, alter operation by the touch switch can be performed at this time.

[0017] Moreover, if a car starts transit and the judgment of step 101 is set to YES, it will judge whether it progresses to step 103 and the transit forced release switches 12 and 13 turn on in coincidence. When the transit forced release switches 12 and 13 do not turn on in coincidence, it tells by transmission that progressed to step 104, set up transit compulsion, and transit compulsion was set as control units 4-9. In order to perform touch switch actuation, the control device which shows to current and an indicating equipment 1 eliminates the switch prevent from operating among the switches currently displayed on display screen 1a, or tones down a switch color, and can be made not to perform alter operation by the touch switch by this. In addition, even when this transit compulsion is set up, it can be operational and, thereby, the screen circuit changing switches 2a-2f can change a screen.

[0018] In such a condition, if an operator does ON actuation of the transit forced release switches 12 and 13 at coincidence, it will tell by transmission that the judgment was set to YES, progressed to step 102, and canceled transit compulsion when it arrived at step 103, and transit compulsion was canceled by control units 4-9. By this, the control device which shows to current and an indicating equipment 1 will return to the normal state which can perform alter operation by the touch switch. In this case, since the operator is doing ON actuation of the transit forced release switches 12 and 13 at coincidence, he cannot perform alter operation by the touch switch, but when crew is in a passenger seat, that crew can perform alter operation by the touch switch. Since that crew does not need to operate the transit forced release switches 12 and 13 at this time, alter operation can be performed with sufficient operability.

[0019] Moreover, in the conventional thing, when the crew of a passenger seat pushes the switch for discharge, an operator can perform alter operation, but since conditions, then an operator's both hands are closed [that the transit forced release switches 12 and 13 turned on in coincidence like this operation gestalt, and], the actuation input by the operator under car transit can be forbidden certainly.

[0020] In addition, although what cancels transit compulsion was shown when the transit forced release switches 12 and 13 were formed in the left-hand side and right-hand side of a handle 11 and they turned on in coincidence, you may make it form the right-hand side transit forced release switch 13 in other locations other than handle 11, for example, the installation of the rise-and-fall switch of a power window, in the above-mentioned operation gestalt. Moreover, even if it does not form two transit forced release switches 12 and 13, you may make it form the transit forced release switch 12 only in the left-hand side of a handle 11, as shown in drawing 5. In this case, since a touch switch cannot be operated with the right hand while the operator is doing ON actuation of the transit forced release switch 12 on the left-hand side of a handle 11 with the left hand, the alter operation by the operator can be prevented certainly. Furthermore, when setting a transit forced release switch to one in this way, you may make it form a transit forced release switch in the installation of the rise-and-fall switch of the power window described above in addition to the handle. While it is the location which an operator can operate manually and an operator operates a handle 11 in short at the time of the manual operation, the transit forced release switch should just be formed in the location which cannot operate a touch switch.

[0021] Moreover, this invention is applicable similarly [in the case of a left-hand-drive car]. What is necessary is just to form the transit forced release switches 12 and 13 in a handle 11, as shown in drawing 6 in this case. In addition, in forming only one transit forced release switch in a handle 11, it makes it prepare in the right-hand side of a handle 11. Moreover, in the above-mentioned operation gestalt, only while the transit forced release switch was pushed, what cancels transit compulsion was shown, but while canceling transit compulsion and performing alter operation, the case where a transit forced release switch cannot be pushed in a right and left chip box etc. arises. In this case, alter operation will be interrupted. In order to cope with such a problem, also after a transit forced release switch turns off, discharge of transit compulsion should just be made to carry out predetermined period continuation. It progresses to step 102 and is made to make discharge of transit compulsion continue until it judges whether predetermined period (for example, 10 seconds) progress was carried out and 10 seconds specifically pass it, after the transit forced release switches 12 and 13 turn off at the following step 105 when OFF of the transit forced release switches 12 and 13 is judged at step 103 as shown in drawing 7.

[0022] Moreover, since alter operation by the operator cannot be performed among the transit forced release switches 12 and 13 if in the case of a car with right-hand steering one left-hand side switch 12 turns on even if the right-hand side switch 13 turns off noting that a car is in a stable run state, when it judges running the highway from the currency information from navigation etc., you may make it cancel transit compulsion. In addition, in the case of a left-hand-drive car, transit compulsion will be canceled, if the right-hand side switch 13 turns on conversely even if the left-hand side switch 12 turns off.

[0023] Moreover, even when the transit forced release switch is pushed noting that a car is in an unstable run state, when it judges running the road where a right and left chip box continues from the currency information from navigation etc. conversely, you may make it set up transit compulsion. Moreover, in the above-mentioned operation gestalt, although what is made to perform a switch display on a screen and inputs by carrying out touch switch actuation in the location corresponding to it was

shown, it can input into the frame 20 shown in drawing 3 by forming two or more switches, without using a touch switch. For example, two or more switches of a frame 20 up and down are formed, and corresponding to it, a switch display is made to perform on a screen and it is made to input by operating the switch which has a frame 20 up and down.

[0024] Moreover, since an operator's both hands are closed, you may make it use fundamentally RIMON (what can be operated by remote control) of another object with a display in addition to the touch switch on a screen, the switch of the frame upper and lower sides, etc., when operating the transit forced release switch except the example shown in drawing 5 in the above-mentioned operation gestalt. Moreover, although the above-mentioned operation gestalt showed what arranges a control unit 2 near the display 1 by forming a control unit 2 in one with a display 1, control units 2 are a display 1 and another object, and may be arranged in near.

[0025] Furthermore, this invention can be similarly applied not only to the indicating equipment for cars equipped with the various control units 4-9 but to the indicating equipment for cars according to each control unit individual, for example, the navigation equipment for cars using navigation ECU 4, from the Maine control unit 3 as shown with the above-mentioned operation gestalt.

[Translation done.]

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- 3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is drawing showing the configuration of the display for cars concerning 1 operation gestalt of this invention.

[Drawing 2] It is drawing for explaining installations, such as the display 1 shown in drawing 1 .

[Drawing 3] It is drawing showing the display 1 in drawing 1 , and the appearance configuration of a control unit 2.

[Drawing 4] It is the flow chart which shows the transit forcible control processing by Maine ECU 3 in drawing 1 .

[Drawing 5] It is drawing showing the operation gestalt at the time of setting a transit forced release switch to one.

[Drawing 6] It is drawing showing the operation gestalt at the time of applying to a left-hand-drive car.

[Drawing 7] It is the flow chart which shows other examples of the transit forcible control processing by Maine ECU 3.

[Description of Notations]

1 [-- Maine ECU, 4 / -- Navigation ECU, 5 / -- Telephone ECU, 6 / -- Television ECU, 7 / -- Radio ECU, 8 / -- A CD player, 9 / -- A cassette player, 10 / -- A speed sensor, 11 / -- 12 A handle, 13 / -- Transit forced release switch.] -- An indicating equipment, 1a -- A display screen, 2 -- A control unit, 3

[Translation done.]

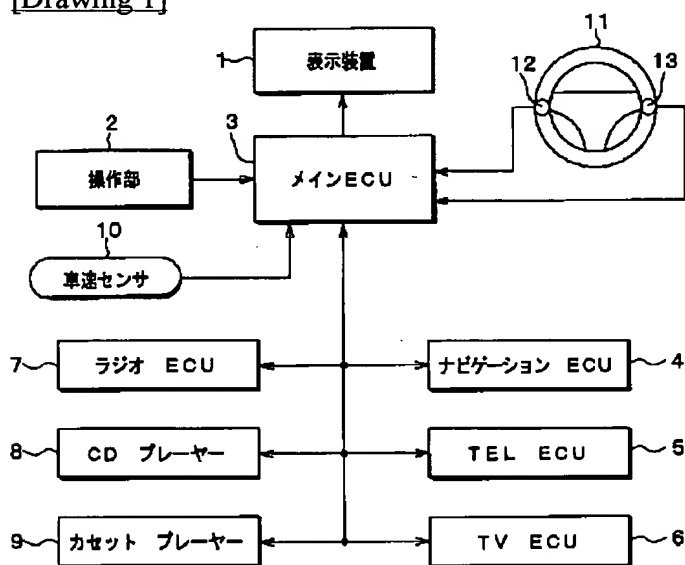
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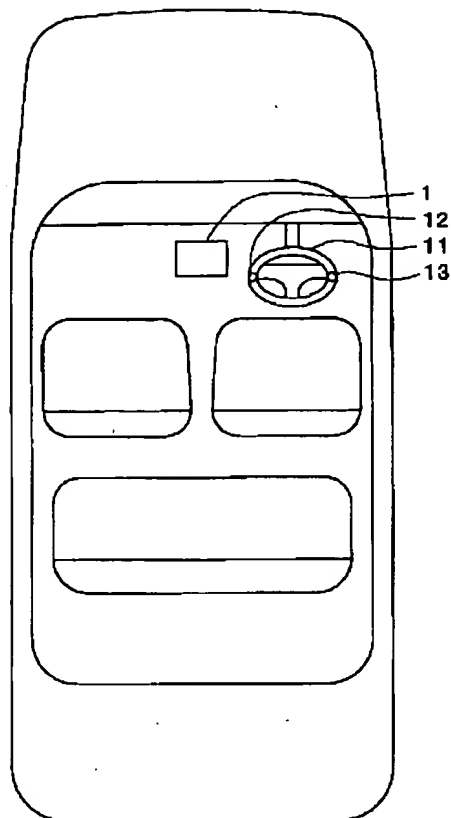
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DRAWINGS

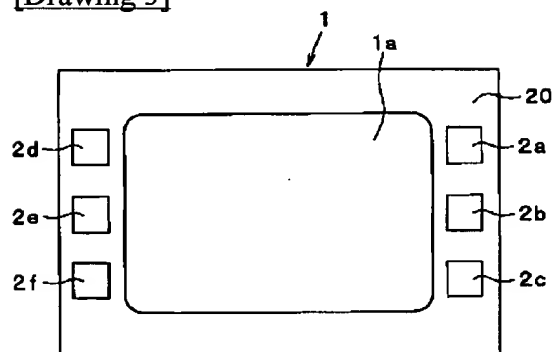
[Drawing 1]



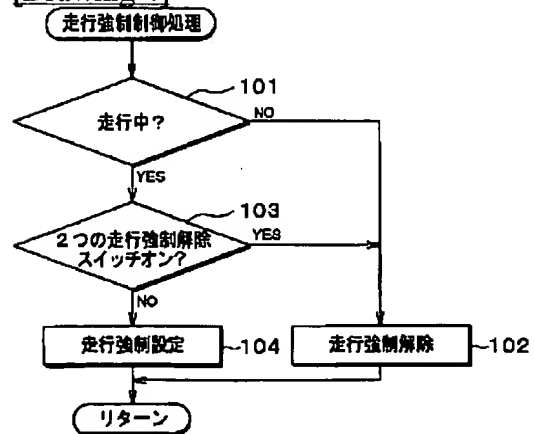
[Drawing 2]



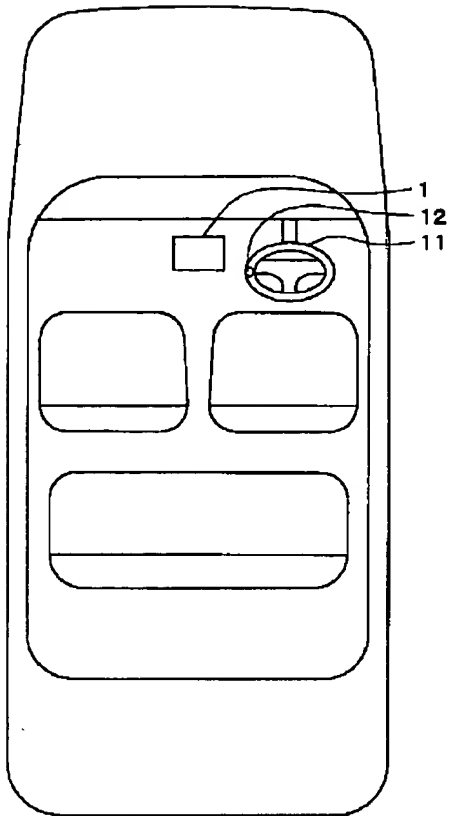
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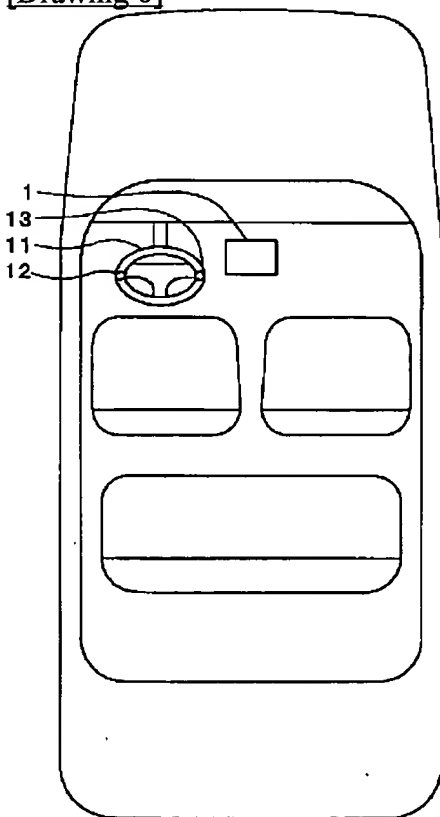
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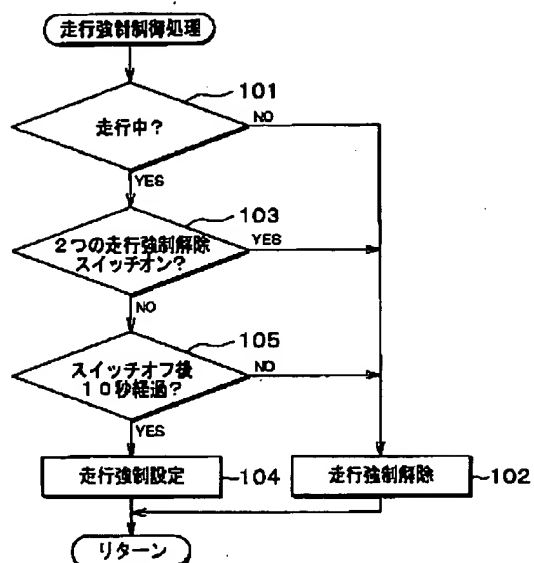
[Drawing 5]



[Drawing 6]



[Drawing 7]



[Translation done.]